# scuthern agriculturist.

OCTOBER, 1829.

### PART I.

ORIGINAL CORRESPONDENCE.

ART. I .- Letters and Queries on Marsh Mud.

OBSERVATIONS BY THE EDITOR.

The Sea-Island Cotton-planters owe much to our spirited and patriotic Correspondent, Mr. Seabrook, for his indefatigable exertions in improving the cultivation of Sea-Island Cotton, and getting information on other points connected with this noble staple of our Southern country. His able paper on Marsh Mud, published in our two last numbers, is really an important one in this culture, and we hope will be read by every one on the tide waters, as well as by those who can get at mud, deposited by water, any where. The inquiries thus set on foot, on this subject, and the efforts making to introduce the abundant use of this valuable manure, ought to meet the ready aid of every planter. Our agriculture, throughout the South, ought to take that high standing it is so well entitled to, not only from the skill with which it is carried on by many amongst us, but from the powerful advantages we derive from climate, soil, and the intrinsic value of our crops themselves. These invaluable staples, by the energy and intelligence we possess, can be made superior to those of all other parts of the world; the quantity of produce raised in the country can be much more than doubled, provided every one will give a helping hand

in the general diffusion of the knowledge we have amongst us, and especially, and above all other knowledge, that of experience.

The differences of opinion which exist on the use of mud, are not merely with regard to the quality of the mud, or whether the beneficial effects were produced by the mud itself, or by the salt contained in it,\* but also on what soils it ought to be used. It is desirable that these points should be settled as far as possible, as well as the best way of applying it to the fields.

Our own theory on the production of mud is a simple one, and we will take the liberty of stating it to our readers, in hopes of getting others to give their opinion on other points connected with its use, by which means, ultimately, all the light may be thrown on the subject which it can receive, and all the information got which may be wanted for practical purposes.

That this, and in fact all mud, contains the food of plants, cannot be doubted. The slime or mud deposited by the annual inundations of the Nile, Ganges, and other large rivers, always produce great fertility. The fertility of our own river swamps, especially the fresh cleared, and therefore new Rice lands; the increased productiveness of such Rice fields as are subjected to long continued flowing by the tide, and a consequent deposit of mud; the heavy crops produced on all the bottom lands of our rivers in the middle and upper country, formed originally by a deposit of a like kind, are convincing proofs of its great efficacy. The ingenious practice of Warping in England, which is also known in France, and has been in use it Italy time out of mind,† all show that mud enriches the soil beyond measure,

<sup>\*</sup> See Mr. Seabrook's opinion, pages 399 and 400, of last number.

t "It was a beautiful idea," says M. Sismondi, in his admirable work on Tuscan Husbandry, "that of forcing the rivers to deposit on the plains which they had ruined, the mud which embarrassed their course and to repair themselves the damage they had occasioned. Often the waters deposit at a single time, three or four inches of an excellent mud. The fertility of the soil doposited by the 'Comblées'; is almost incredible; a piece of ground in my neighbourhood, which was sown two years ago, for the first time, with five sacks of wheat, produced from it one hundred and twenty-five sacks in return." — Agriculture Toscane, p. 14.

<sup>‡</sup> Comblées is the Italian name for this process, which in England is called Warping.

<sup>|</sup> This is not equal to our best new tide lands, which for one bushel and a half, or two bushels of seed Rice, frequently give four barrels, equal to eighty or eighty-five bushels of rough Rice, per acre.

and is considered every where as originally producing, or as increasing the productive power of all lands devoted to

agriculture, to which it can be applied.

The salt marsh mud, in our rivers and creeks, without a doubt on our mind, is produced in the same way as all alluvial deposits. In our new country, covered as it is every where with rank vegetation, the production of rich mould on the surface of the wooded high lands, is rapid and incessant. In our heavy rains this mould is partially taken off, and the finer and richer particles being kept suspended in the waters as they flow towards the sea, are carried along until they meet the salt tide. The affinity of water to salt being greater than to the earthy particles which are held in solution by the fresh water from the high lands, the latter are deposited as the waters mingle. The stop put to the motion of the current by the flux and reflux of the ocean at slack water, four times in the twenty-four hours, greatly promotes this operation wherever the influence of the tide is felt, and hence to any one observant of what is passing around, the increase of the marshes, at particular turns of rivers; the filling up of creeks, coves and low fields of mud. is obvious and remarkable.

If such is the origin of marsh mud, and we do not see well how it can be doubted, its effects, as a food for plants, on all such as are not injured by salt, must be beyond masure beneficial. On Cotton, which we know grows to the greatest advantage on *fresh lands*, it must be particularly so, for we believe the mud has all the advantages of the new soil on fresh healthy high land, with this additional advantage, that all prior vegetation in it is killed by the salt water.

But we would here ask a question, which we have often asked before of individual planters: Why shall the use of marsh mud be prohibited on stiff lands? The answer we have always got has been, that stiff lands would be rendered more stiff by the application of the mud; that the proper manure for stiff lands is sand, and that mud could only be beneficial to light and sandy soils, &c.

Some little obscurity appears to have been introduced into the reasoning on this subject from the very first; it still hangs about us, and influences too much the use of this real agricultural treasure. And this arises from confounding the pure mud originating in alluvial deposits, with clay

which is sometimes found near the shores, of a black colour, from a partial mixture with good black marsh mud.

If pure mud is formed, as we say, by the washing away of the very richest and best parts of what forms our new lands, to restore this treasure back to our fields cannot be otherwise than highly advantageous to every soil, let it be what it may, to stiff lands as well as to those of a lighter kind.

We have seen occasionally, and at a distance from the shores, a thin layer of yellow clay spread over the black marsh mud, but this we could at once trace to the washing of a clay bluff, in a violent South-wester, at a high springtide. Such causes can seldom operate. The washing of the mould from the surface of the woods, is continual, and has been going on for many ages. We have sounded in some spots of pure mud, twenty-five feet, without reaching the bottom.

The mud described by Mr. Seabrook, is, we think, from its position, mixed with much of the high-land soil, for if it were pure mud, it would be impossible for either cart, horse or driver to be supported on it. The pure marsh mud has no turf, and may be known by the long marsh grass which grows on it. Near the shore it gradually becomes consolidated, by the washing away of the high-land, and in proportion as this takes place, the long marsh grass gives place to a shorter growth of grass, to rushes, samphire, and other plants. The richest and best mud, is soapy to the feel, soft and easily managed with the hoe. By washing and dissolving a pound or two of it in abundance of water, the sand will be separated from the other parts, which will be suspended in the water, while the sand will settle to the bot-This water must be poured off into another vessel, and allowed to settle entirely. On withdrawing the water from the sediment carefully, the relative proportion of sand and vegetable matter, or mud, which last is the manuring principle, will be found by weighing each separately.

The letter of our Beaufort Correspondent, throws additional light on this important subject. We have observed in some situations, that mud dug and left in the sun, has apparently been converted into white sand, but in similar cases, we believe the wrong places for digging have been always resorted to; namely, too near the shore. This fact also proves the necessity of carrying this valuable article at once into the fields, for it shows the extreme solubility of

the black mud. No doubt every shower washes it away, and when the heaps of mud are left at the landing, the richer parts are again carried back into the salt water by every rain.

We call the attention of our readers to the experiment of the half acre manured with mud alone. Also to the statement of the rust having occurred in the old field manured from the cow-pen. Every fact of a similar kind ought to be made known, with the mode and time of listing and bedding for Cotton, and the particular kind of growth on the field previously.

J. G.

"Beaufort, August 10, 1829.

To the Editor of the "Southern Agriculturist."

I am fully convinced, Mr. Editor, that the diversity of opinion existing upon the subject of salt mud, as a manure, is attributable to the difference of the quality of the mud with which experiments have been made. There are many intelligent planters of close observation in this neighbourhood, who deny positively its efficacy in any experiments of their This summer I commenced carting out mud and piling it, from a creek, where the mud was of a rich blue colour, and to all appearance of the best quality of salt clay\* mud. The spot from which it was taken was bare of marsh; the mud after being piled one or two weeks, still appeared of a good quality, but a few days ago, (being about a month since it was carted out,) I examined the piles and found them covered with a crust of white sand; and as far in the heaps as the influence of the sun, and the washing of the rain could be felt, the greater proportion was sand; and if put upon the land, the effects would certainly be pernicious.† No one, to judge from the appearance of the mud before taking it out, and the location of the creek, would have supposed there was the least danger of too great an admixture of sand—the bluff immediately contiguous, was low and not sandy. Any one who had taken this mud out in the winter, when it would be covered before the sun and

<sup>\*</sup> We object to the word clay, as likely to mislead. "Salt marsh mud."—Ed. of So. Ag.

<sup>†</sup> In thus collecting marsh mud at landings, leaving it exposed to the weather for months, or even weeks, the fine mould is again washed away and lost.—Ed. of So. Ag.

rain had had much influence upon it, would have supposed that they had used mud of the best quality; and if no beneficial effects had resulted, would have attributed it to any other cause, possibly, than to the quality of the mud. have observed, as a general rule, that when the marsh

grows luxuriantly the mud is good.

I saw an experiment made upon a half acre last year, the result of which is at your service. A gentleman of my acquaintance manured, with a compost of marsh and cow-pen, a Cotton field of twenty acres, which had been fallow for a number of years, and which was formerly cultivated in Indigo; the soil was poor and arid, and on this account he supposed the best manure he could apply would be that which was the most stimulating;\* he accordingly used the kind just stated, in preference to salt mud, which could have been conveniently obtained. A half acre, however, was manured just before planting, with the soft mud, and the Cotton upon it was more luxuriant throughout the season, and grew at least two feet higher than the rest of the field; and when that part manured with compost was materially injured by the red rust, it remained perfectly green and free from it. Proving satisfactorily to me, that on some soils, (one, for instance, very warm, and lacking moisture,) the marsh mud is as fertilizing and stimulating a manure as can be applied.

AN ISLANDER.

<sup>\*</sup> Why shall we all think stimulating manures necessary under any circumstances? Vegetables, like animals, require good, sound, wholesome food, in suitable quantities—the climate is sufficiently stimulating. Stimulating manures, by which we mean fresh manures, buried under the listing, in our opinion, produce disease, or destructive insects, and these are sustained, and increased year after year, by continually planting over the same fields in Cotton, which is their food in the same stimulating way. The system of change of fields, admirable in itself, we fear is not sufficient to eradicate the various kinds of insects, viz. caterpillars, &c. rusts of different kinds, (which, with Mr. Spalding, we think are animal, and not vegetable,) and that unknown insect, which perforates the Cotton pod itself. The grass may harbour and protect all these in the fields which are thrown out! We certainly think, with the French agricultural philosophers, (see page 427,) that the true remedy for this, is a rotation of crops—fortunately for Carolina and the South, the noblest and most lucrative rotation is offered in the Sugar-cane, Indigo, (perhaps the bearded Rice.) and Cotton, with our provision crops; all of which would become more productive to the acre, by being planted in a judicious succession. The facts stated of this twenty-acre field, are most important, and with other facts already known, we trust will induce all who can get mud of a good quality, to resort immediately to it.—Ed. of So. Ag.

"Savannah, 18th August, 1829.

## To the EDITOR of the "SOUTHERN AGRICULTURIST."

The perusal of Mr. Seabrook's remarks, (in your August number,) on "the advantages of marsh mud as a manure," and your accompanying observations, has afforded me pleasure, and I trust much useful information.

Confident that your purpose is to satisfy honest inquiry, and extend profitable intelligence, I am sure you will gratify a subscriber to your valuable publication, by affording information on the following points:

1. What is computed to be a cart-load? How many bushels, or what quantity of any other measure? The right understanding of this term is necessary for comprehending some of your Correspondents.

2. In getting out marsh mud, is labour apportioned to the hands singly, or in gangs, and what is considered a task or day's work.

3. As it appears to be an unsettled question, "whether the mud should be applied when it is green, or after it is dried and pulverized?" your opinion on the subject would be very acceptable.

4. Is it customary, or in your view judicious, to top the Cotton? and if it is, please state at what season, or under what circumstances, with such reasons as recommend the practice.

These inquiries are made by one advanced in experience, but deficient in science, and who is willing to yield the prejudices of habit to the light of philosophy.

## A GEORGIA PLANTER.

### OPSERVATIONS BY THE EDITOR.

We hope Mr. Seabrook, or some other Correspondent will reply to queries No. 1 and 2. In the wheel-barrow work, no task can be given, the hands must be pushed on by the driver, as fast as is reasonable, and of course are best worked in a gang. In fact, the planter or manager ought to be present himself during the whole tide.

In the diversity of opinion on the best mode of applying the mud, we would again express our own conviction, that the sooner it is carried to the field, the less waste of this valuable manure will ensue; and, besides, in its green state, it is more manageable.

We have heard of no Sea-Island Cotton being topped lately. If any one has found it beneficial, we hope he will

inform us.

Our Correspondent is advanced in experience. He is fortunate! We beg him to communicate to us some of the knowledge he has thus obtained. Any subject connected with agriculture, or the interests of its followers in the South, will be gladly received.

J. G.

ART. II.—On Level, or Horizontal Ploughing; by J. Joor.

"The Hills, (near Natchez,) June 27, 1829.

To the EDITOR of the "SOUTHERN AGRICULTURIST."

Sir:—I was much gratified some months since, at receiving sixteen numbers of "the Southern Agriculturist." The perusal of them gave me much pleasure, and added considerably to my stock of agricultural knowledge.

In looking over the numbers of the Agriculturist which have been received, I have found nothing on the subject of level ploughing—an agricultural improvement very gene-

ral in this country.

This mode of laying off land for the cultivation of Corn, or Cotton, was introduced in the neighbourhood of Natchez about twenty years ago, by Mr. Samuel Postlewaite; it was confined for seven years to his plantation, but its advantages becoming understood, it is now the general practice in the counties bordering on the Mississippi, where the lands are much broken, and it is gradually subverting the old practice in the interior of the State.

The advantages derived from this mode of cultivation, consist in preserving the soil from being carried off by the rains, by retaining the water in the furrows, and as a relief

to the ploughman and team, in moving always on a level surface, whatever unevenness may exist in the face of the

field; the work being also better done.

I am perfectly satisfied, from my own experience, that a field of Corn cultivated in this way, will yield one fourth more than by the ancient practice. The product of Cotton is also increased by the better ploughing and retention of water in the furrows after rain.

On my introduction of this mode of ploughing, eight or ten years ago on my plantation, the ploughmen were for the first year somewhat awkward; but, since that time, we move on as smoothly, and have as much work done as formerly,

when moving in straight lines.

When the land is well ploughed, I have known an entire year to elapse without the breaking of a single furrow. I cannot perceive, after ten years cultivation, that the fertility of the soil has been impaired; whereas, after the old practice of straight lines up and down hill, a plantation was worn out in that time.

If a field is once well laid out, it will always retain the marks of the level track of the plough, and in breaking up

for small grain, we observe the same course.

If these remarks of mine should be of any service in introducing this most useful of modern agricultural improvements, it will be the highest gratification to me, as, although far removed, I retain the warmest affection for my native State.

I am, respectfully, your obed't serv't,

J. JOOR.

#### OBSERVATIONS BY THE EDITOR.

If it were necessary to convince our readers yet more, of the advantage of a general diffusion of agricultural knowledge; of the necessity of communicating, we will not say merely every thing worth knowing, but every thing in which one farmer, or one planter, differs rationally (not whimsically, from another in his management, or in any of his operations; the instance given in the letter now before us, on level or horizontal ploughing, when compared with Mr. Simkin's,

in our last number, will be sufficient.

Mr. Simkin's, with sound judgment, recommended the mode of cultivating with the plough adopted by him for two years past, and with candour pointed out its advantages and disadvantages, as far as he knew. Mr. Joor, without knowing that we had received any information on this subject, sends us the preceding letter, for which we are greatly obliged to him, for it settles several points from experience, which Mr. Simkins could only judge of by sound conjecture. These will be seen by a reference to the letter, but the point we wish to notice is, that while we are just learning from Mr. Simkins' communication a new and most important lesson, the very practice he recommends has been known, and is actually twenty years old, in another part of

the country.

How much time might be saved? How many valuable discoveries might have been brought into use? How many abortive experiments might have been spared? How much might have been added to the income of individuals, and to that of our country, if, for twenty years past, agricultural knowledge had been widely diffused. In this instance, if this mode of ploughing had been well known throughout the whole of the Southern country, and brought into use, as it was by Mr. Postlewaite twenty years ago, how much land would have been still in the hands of the original settlers, or their descendants? How many farms would now be well and comfortably settled, that are abandoned and waste, or barren beyond the power of being reclaimed?-How many families, who have gone far into the wilderness, and from good markets for produce, would be still settled in South-Carolina? We do not know whether this circumstance has ever occurred to those who emigrate beyond the mountains, but to us it would ever be a powerful objection, namely, the immensity of produce which must be carried to The competition to sell produce must frea single outlet. quently occasion ruinous sacrifices there, and will increase as the Western country becomes more thickly settled. New-Orleans will ever be the great mart, and will be a great and powerful city, but one port cannot be sufficient for a country larger than all Europe! There will be canals and railroads, it is true, to our shores, but the mere expense of carriage will be a living profit, where it can be saved to the planter.

We shall be happy to hear from both of these Correspondents, informing us of the consequences of the great fall of rain this summer; and whether any, or what injury was sustained or prevented by the system they both so strongly, and, in our opinion, so justly recommend. We should be particularly obliged to Mr. Joor, to inform us and our readers, what mode of laying off the fields is adopted on the Mississippi, to avoid the evil of short rows.

J. G.

ART. III.—On the mode of Cultivating Lands near Black Swamp, for the amelioration of the soil; by AN INHA-BITANT OF ST. PETER'S PARISH.

Mr. Editor:—In your May number, "A Subscriber" requests information on the tillage necessary for the amelioration of land, from some Correspondent in the neighbourhood of Black-Swamp, near Savannah River, and of the mode practiced by the late Doctor Henry Richardson for that purpose. I have waited for some time expecting to see an answer from some more able pen than mine, but as no one has answered "A Subscriber," I will attempt to do so.

I must first observe, that of my own knowledge, I am unacquainted with the practice of Doctor Richardson, but to remedy that, I have lately conversed with the manager of the estate, on that subject, who says that some years ago it was the Doctor's plan to keep up his fencing, and not to suffer stock of any kind to pasture on his cleared land.— Latterly he had reversed the case, and kept his entire stock on the fields planted the year before. What motive induced this change of practice, he does not know. It is to be presumed, however, that it arose from a conviction of past error, for the Doctor was a practical planter. As regards the treatment of the lands on Black-Swamp, and its vicinity, there seems to be but one mode in practise, therefore no contrariety of opinion exists, and all who pursue this plan succeed, in proportion as their lands are rich or poor; viz. New lands are planted three years, then thrown into pasture, or kept under fence, as may best suit the opinion or convenience of the owner; for one year, after that, planted every other year, as all the other fields of the plantation are.

By thus treating land, it never exhausts, and by many of us it is thought to improve. On the subject of resuscitating old lands we differ, some keep their stock off the fields intended for the succeeding year, and suffer those fields to grow up, in what is here called hog fennel. We seldom list in this growth earlier (for want of time) than January, being till that time generally engaged in gathering and cleaning out our crops for market; others are of opinion, that it is best to pasture their idle fields—to this opinion I adhere, and for it assign the following reasons: Our lands are mostly light, with a soil of three or four inches, then for a foot below, yellow or white sand and gravel; after that, a good bottom of red or yellow clay. Lands of this description are generally light and loose, and will be improved by pasturage. The cattle, sheep, &c. feeding and trampling on these idle fields, consolidate the surface. Crops planted on such fields come up well, and will grow without interruption. Besides the above, Mr. Editor, we have many weeds to destroy, the burr, the briar, and others, all will be destroyed by the stock; and will they not leave you something in return for the food you furnish them? On fields pastured, we have less grass—the stock will suffer none to seed. If I planted stiff clay land, I would keep up my fences, and raise all the weeds I possibly could on my idle fields. We would not plant our newly cleared lands more than two years, if we could avoid doing so; to have a complete shifting of fields, we require from fifteen to twenty acres of open land, to every full hand. A regular rotation of crops has never been experimented on hereabout—we often plant Corn two and three years on the same field, but never so with our Cotton-crops.

AN INHABITANT OF ST. PETER'S PARISH.

ART. IV .- Calculation of Profit on a Rice Mill, in Carolina.

"\_\_\_\_\_, 10th July, 1829.

Mr. Editor:—The subjoined calculation is among the papers of a highly respectable Rice-planter, deceased, and is sent to your useful periodical for publication.

I was one of those, sir, who heard the lucid observations of that lamented friend of his country, the late Gen. Thomas Pinckney, deceased, at the discussion of the Rice-mill question, before the Agricultural Society in Charleston; and I well remember the drift of his remarks, which went to prove that the toll exacted from the Rice-planter is too great. I have always regretted that I did not take notes on several points of that admirable speech, namely, his calculation of the cost and interest on the capital necessary to be invested in a Rice-mill, and his calculation of the expenses and profit on these establishments.

Perhaps, sir, some of the gentlemen present may recollect sufficiently the detail of these to be able to place them upon record in your work, as well as the statement of his own loss on Rice beat at a toll-mill, and then just received from his factor; but the inimitable manner of treating this question; the calm, clear, deep reasoning on a subject so important to the country, and which had been so angrily misstated in the public prints, and, of course, misunderstood; the fixed attention given to every word that fell from his lips; the conviction that followed every explanation he gave, can only be estimated by those who had often seen him in this

his favourite Society.

Mr. Editor, I fear "we shall never look upon his like again," for where shall we find another, who, with a mind so refined as his, with manners so polished, with a conception of his country's interest so perfect, with an intellect so capable of embracing at once the most comprehensive subjects, as well as of selecting those of minor importance as they floated by, and converting all to the public good?—Where shall we find a man of motives so pure, so deserving of the full confidence of every one of his fellow-citizens, and so perfectly possessing it? Wise without conceit, and above all, without the blemish of opiniatreté! This is a character seldom met with in any country, and the less likely to be found hereafter among us, as the opportunities of acquiring that kind of education which enlarges the mind, are fewer than in times that are past.

I am, sir, with my best wishes for your success, but at the same time recalling this subject of Rice-mills to your no-

tice, your's, &c.

A RICE-PLANTER OF SOUTH-CAROLINA.

### CALCULATIONS OF THE PROFIT ON A RICE-MILL.

Nov. 15th, 1825.

Dear \* \* \* \* :—The questions you ask are, what I think of the inclosed estimate of the expense of building a Ricemill, and whether 10,000 dolls. can be made from one, per annum? You state that \* \* \* \* \* \* s mill, in 1823 and 1824, beat, from October to September, the following year in common tides, 120 barrels, but in good tides, 170 barrels per week; having been informed by a proprietor of this fact.

From October to September, are eleven months; but as that was an extraordinary season, it will be safer to reckon only from the first of October to the 20th July, which gives 293 days; 41 days taken off for Sundays, gives 252 work-

ing days.

You state that the mill beat 120 barrels in common tides, and 170 in spring tides. Let us average these at 132 barrels per week. This would give for each day in six, 22 barrels, and for 252 working days, a total of 5544 barrels of Rice, beat at the mill during the season. On this amount, the toll, at 9 per cent, is 499 barrels. We may with safety call this number "for short," as the negroes say—500 barrels.

500 barrels of Rice of 600 lbs. nett wt. at \$2½ per 100, are worth per barrel, or  The cost of barrels I take to be this: staves being got at \$5½,		5 <b>\$</b> 75	00
\$6 and \$7, per thousand, then 1000 staves, which will make			
40 barrels,		50	
Cost of hoops and heading,	2	50	
Half a month of a cooper,	6	00	
Profit per barrel equal to 50 cents,	-	00	
The value of 40 barrels at 871 cents, the selling price,		00	
If the mill supplies 3500 barrels, and the profit on each is 50 cents, the total profit on barrels will be	_	—17	50
Freight of 5544 barrels, at 25 cents per barrel,		13	86
Profit without deducting charges,	\$10 636		

I tell you candidly, my dear \* \* \* \* \*, that of this sum I would not like to part with one cent. In order, therefore, to pay the charges of working the mill, I suggest to you to put on the place, stock sufficient for that purpose. You know the advantage of keeping a large stock of cattle,

where abundance of Rice-flour can be got to fatten them up for market, and at so short a distance from town. Let us suppose then, that you put on the mill tract, 200 head of cattle, 124 head of sheep, and a stock of hogs.

From 200 head of cattle you may so arrange as to have-

A stock of Hogs.

Keep—10 Sows.

Sell-

50 Barrows, (2 years)
50 Sow Shoats.
50 Young Barrows, (1 year.)

Sell—30 head for 300
50 do. for 100
— 400
— 400

To which add this sum over the \$10,000 of gross profit,

\$3596

This, with the chance of selling Rice at \$3, will, in my opinion, pay the charges of the mill. If it does not, what rate of interest will it give you? Your's, &c.

<sup>\*</sup> Milk 180 quarts per day, a 12 quarts per pound of butter, (I calculate too largely in this, I fear,) equal to 20 lbs. per day, or for 185 days, 3700 lbs. a 25 cents.

We have no room in this number to comment upon this subject.—Ed. of So. Ag.

ART. V .- On the Uses of the Acidulated Juice of the Sugar-Cane; by W. W. HAZARD.

Note, by the Editor.

We publish the following letter with pleasure, not only as correcting a mistake of ours which proceeded from sheer inadvertancy, but as bringing upon the writer's own excellent principle, good out of evil-our blunder has produced

a valuable Communication.

That the acidulated juice of the Sugar-cane can be converted into vinegar, there cannot be a doubt; but unless the process was to be continued without intermission, and the casks constantly kept filled, they would be useless when wanted; and as they must be large, the loss would be con-Besides, good drinking cider, from which common vinegar is made, is now selling at \$2 to \$2 50 per barrel, in Boston. These barrels hold thirty-two gallons, which, at \$2 per each, is only 64 cents per gallon.— Valuing the vinegar made from this at that price, and taking off the charges of transportation, freight, &c. from what would be made in the South, it will be seen that the manufacture of vinegar would not pay the planter.

If the acidity has not proceeded too far, the juice might be distilled, as most of our readers know. But even the sale of the article thus produced, will, in our opinion, not pay long. We belong to no Temperance Society, but we are well satisfied that such is the influence of correct principles, when put in direct array against the vicious and degrading propensity of drunkenness, and supported by the example of the better and more influential part of society, that they will ultimately prevail even in those classes where the greatest consumption of spirits takes place, and bring a total reformation of manners in this particular. With that, will fall the sale of rum. But even now this old staple of some countries, must decline more and more in value, as

whiskey, its representative, falls in price.

We have often thought, with our Correspondent, that red oak bark would pay planters at a distance, if sent to town; but it must be cut from fresh trees, and in the spring, while the sap is rising, to make it profitable. Should any one wish to try it, we must inform them, that a cord of bark,

made up in Charleston, takes about two cords of country, well packed measurement. Potash might frequently help out a loss of crop, as many of our woods, under-brush, and vines, particularly the bitter gourds, would afford it abundantly if tried.

"Ten thousand parts of			Ten thousand parts of				
			potash,	Fern,	yield	d 62	of potash,
Oak,	44	15	""	Wormwood	d, "	730	" "
Beech		12	44	Vetch.	- 44	275	44
Vine,	44	55	44	Beans,	44	200	44
Poplar	. 44	7	44	Fumatory.	66	790	44
Thistle	46	53	44				

"Weeds, leaves, and stalks of beans and peas, of melons, gourds of all kinds, of potatoes, cabbages, maize, are rich in alkali."

In the New-England States, everything is converted into crop, and we in the South might learn many good lessons in agricultural economy, from the farmers of that country.

J. G.

To the Editor of the "Southern Agriculturist."

Dear Sir:—From the purport of your note, you appear to be under the impression, that we have requested you "to make inquiry into the manufacture of vinegar, from the syrup of Sugar-cane;" which would be giving you unnecessary trouble, when the ebullution of syrup into Sugar, is a process sufficiently investigated, and explained by your able Correspondent, Mr. Spalding.

It necessarily devolves on me to explain to you more fully

our inquiry, and its object.

Hitherto, when Sugar-cane has been injured by sudden frost, or saturated in an equinoctial gale with salt water, the juice is considered too acidulated and saline to be decoctible

into sugar, or even syrup.

It therefore occurred to us, that if the juice (not the syrup,) of Sugar-cane, was injured by such casualties, and could make vinegar, of ready sale at 25 cents the gallon, that it would prevent a total loss of our cane crop; and as the expense of fuel would not be incurred, nor any reduction in quantity, by evaporation from boiling, it might be as profitable even as syrup.

The proposition, then, presented for your consideration, and that of your readers, was not if vinegar could be manu-

vol. II.-No. 10.

factured "from the syrup of Sugar-cane;" but whether the juice, or succus of Sugar-cane, is convertible, "per se," into vinegar; should the vicissitudes to which we are always ex-

posed, render it unfit for syrup and sugar?

While on a visit to one of the Bahama Islands, I met with some cordial, not inferior to Noyau, which had been distilled by an Italian on the Island, from a cargo of syrup and whiskey wrecked in that dangerous Archipelago, and so impregnated with salt water as to be considered of no value.

In the earliest accounts we have of the Sugar-cane, it is related, that when the Crusaders invaded the Holy Land, the enthusiastic name of all Palestine, that they found the inhabitants of the Mediterranean, using a delicious drink, which they called Zeucre; made from a plant which they only knew as the honey-reed; now our celebrated Sugarcane, and the valuable saccharum officinarum of Botanists. The juice was pressed cut, by means of weighty beams, and put away in light earthen jars to crystalize; these crystals they sold at a high price, and the liquid they vended as a drink.

We remember to have heard in our boyhood of a planter on Combabee River, (S. C.) who lost the best part of his Rice-crop; but necessity suggested another expedient to supply the deficiency: the empty casks were carefully packed with split light-wood, and deposited in Charleston till winter, when they sold at some profit; and you must recollect, Mr. Editor, that the decortication of red oak bark, for the use of Tanners, was considered a profitable employment in some situations, after the disastrous gale of 1804.

Experience has almost persuaded me, that the world is a grand field of battle, in which a man should always have his armour buckled on, and be perpetually prepared to contend with, not surrender to evils—which too often casts a gloom, long, deep and discouraging, over our brightest prospects and the beautiful science of Agriculture, render-

ing it mere toil.

We should endeavour to counteract these evils, and turn them to some good. If our cane is injured, so as to be unfit for Syrup or Sugar, we must find out some way to make the juice profitable. If our Corn is broken down by a violent blow, when the plant is in silk, we should carefully collect and cure it for fodder. If the season, like the present, is wet, and the grass in our Cotton cannot be killed by hoeing, we should rake it out with the hoe, and bury it in small holes along the alley. If our provision crop is short, we should plant an early crop in March or April, of the large black, and small early white Pea, which is fit for allowance in July, and would relieve our feelings from anxiety;\* and lastly, if we get in a short crop, we should have short accounts, which make long friends.

With our best wishes for your successful exertions, we pray you be assured of our highest consideration.

W. W. H.

West-Point, 17th July, 1829.

## ART. VI.—On Green Crops buried as Manure; by GEORGE F. CLARKE.

To the Editor of the "Southern Agriculturist."

Sir,—In your March number, I observed an inquiry made on turning in green crops as manure. There can be no doubt of the good effects of every trial of this kind, whether the growth used be of wild or domestic plants; and that the amount of good, resulting, will be in proportion to the density and succulency of their foliage; none, perhaps, containing qualities peculiarly condimental to the soil.

Among the many articles presented for a choice, I selected the Ground-nut; and though my experiment was limited in both time and area, and not as neatly and conclusively pursued as might have been, I felt convinced of its good effects. My motive for preferring the Ground-nut, not only rested on these qualities of its foliage, but I contemplated three attending advantages it was capable of affording.

\* Particularly so when Corn is \$1 25, and freight and commission 122 cents per bushel, as is said to be the case now in Savannah. W. W. H.

We recommended some time ago, the Winter Bean and the Winter Pea, (page 276.) We have also stated that the garden Peas, if sown in proper season, would yield an acceptable change of food to our negroes, and would help materially in scarce seasons. These are to be planted and harvested without being supported by sticks—although in this way they are not as productive as in the garden culture. Irish Potatoes, planted also this month, will come in at a good time to assist in saving the planter's money crop, and it ought to be remembered that winter provision crops require less labour to keep them clean, than in spring or summer. For this reason we recommended Wheat, Barley, &c. for provisions.

J. G.

About half an acre of light sandy land, miserably exhausted by a succession of Corn-crops, was again planted with this grain. It had a flat hoeing, and a drawing up, or hilling; but so poor was the prospect, though in a favourable season, that I, shortly after the hilling, cut it down for fodder, and commenced the experiment of green manure.-Having broken up each alley the breadth and depth of a hoe, these and the beds were planted with Ground-nuts, in about twice the usual quantity of seed for a crop. In good time, it got a flat boeing, to permit the Ground-nuts a good start of the grass, and then it was left to its issue. When the crop, largely intermixed with grass and seeds, had got to its best growth for the purpose, about the middle of fall, the whole was turned in with a hoe. After the first heavy shower of rain, a considerable quantity of nuts were gathered from the surface; and when the ground had lain a sufficient time to effect a rotting of the buried herbage; the hogs were turned in to seek their reward, in the remaining nuts, for working up the land. I was not disappointed in these three additional benefits: a good portion of nuts, food of a very fattening kind for the hogs, and the soil well stirred by their rooting. The succeeding season it gave a much better crop of Corn than it had done for several years, and immediately in succession, a good crop of Turnips.

It was my opinion, on combining circumstances, that had the land, after turning in the herbage and gathering the nuts from the surface, been left just as it was until the spring, the quantity of nuts remaining buried would have come forth early, with a vigour and union sufficient to smother the greater part of the grass and weeds; and that again turning in the whole growth, collecting the nuts, and putting the hogs in, the last of the winter, the soil would have been much improved, and the hogs well paid by a good winter

mess.

A method of green field manuring, that I have frequently used to advantage, is simply this: Directly after harvesting, list in all the offals of the crop with the herbage, and lightly bed on it to rot them; then is the time of the year the land is most heavily clothed with verdure, and that in its most juicy state; and just before planting in the spring, (the listing will be rotted down) draw on to it the light coat of soft winter weeds then on the ground, and which rot immediately. We, in Florida, generally defer listing until after Christmas,

when there is little else to list in but the dry stubble, and a few dry stalks; all else having gone off in gasses to nature's great store-room of vitality, the atmosphere. And those dry stalks insure a supply of cut-worms, that would have been

destroyed in the egg by the early listing.

This course in our field lands, which generally are required to produce only one crop a year, with a judicious altering routine of crops, ought to hold them up to about a primary state of productiveness; and if we add to that heavy listing, before it is covered in by the bedding, an addition of whatever manure is most convenient, it would in proportion improve them. None is more at hand along our seaboard, generally, than salt mud, and none is more desirable for this purpose. Fresh-mud is good, inasmuch as it contains largely animal and vegetable recrement, but the salt-mud must claim a preference from the additional presence of its saline quality, in itself a manure, and a destroyer of insects; and the absence of that accumulation of vegetable seeds so troublesome in pond-mud, cow-pen, stable, and dung-hill manure.

In order to give you the result of an experiment on manure, than which, nothing in that way has ever surprised me so much, I must premise, that the fall, winter and spring, in this country, compose our best gardening season. field of high and very light sandy land-quite worn out by the culture of Corn-listed, manured and bedded, as above, early in September, to plant in Corn, &c. this spring. Immediately after the bedding was finished, I chose out the poorest acre of the whole, and had the middle of each alley broken up the width and depth of a hoe, levelled with a rake, and trampled down with the feet; then, about two feet apart, holes made, by taking out a light-hoe full of earth, for Cabbages of four kinds, and Coleworts for the cattle; and a large double handfull of manure (described below) was thrown into each from a passing wheel-barrow. For Ruta-baga Turnips, and the Turnip-rooted Beets, instead of holes, a slight drill was drawn by the corner of a hoe, through the middle of the prepared alleys, and some of the same manure was spread therein, and holes then dibbled about one foot apart. The acre, divided among these four articles, was planted from seed beds sown in August. The weather had been very dry, and continued so for many weeks; indeed the ground never had a thorough soaking

throughout the whole crop; nor was watering used but twice on the Beets, after the day of planting. But they quickly started, and I am sure that for a rapid, rich, tender and clean growth, (scarcely a worm below or above ground,) they were not exceeded by the best manured and watered garden in or about this city. I never saw any considerable plat of these articles so generally fine in size and quality.—The Drum-head Cabbage, requiring a longer growth to maturity, and the dry season continuing, did not succeed

equally well in point of size.

In order to make up a sufficient bed of manure for this ground, I threw together such as were at hand, cow-pen, stable, rotted weeds and dry mortar from an old stone building, without any regard to proportion; and when incorporating these, added, by guess, about a bushel of slacked shell lime, that had lain above a year in the weather, to twelve or fourteen bushels of the general mass. There was an energy in the effects, or something like witchery, beyond any thing I had met with from such manures, without fresh lime, which I attributed to the admixture of this article.—Here is an evidence, that a garden can at once be made on the poorest of soil, with but a small quantity of a favourable manure.

Respectfully, your obed't serv't, GEO. J. F. CLARKE.

ART. VII.—On the Silk Culture, near Notchez, and on the Mississippi; by W. H. SPARKS.

"Natchez, Mississippi, June 14th, 1829.

Dear Sir:—Believing you would be pleased to know the truth concerning certain experiments, which are now making in many districts of the Southern country, in growing or rearing Silk-Worms, and the quality and quantity of raw Silk spun by these busy insects, I have taken the liberty to inclose to you a small quantity, received from my friend, Mr. John Routle, a planter in this vicinity. Mr. Routle, in common with several gentlemen of this county, have a few worms, not exceeding three hundred, and the result of their

labours, the last season, has been so satisfactory, that I should not be surprised if, in a few years, the article of Silk should become one of our staples—it assuredly will, should the present low price of Cotton continue. The White Mulberry grows remarkably fine in our climate, and I believe we have as few, if not fewer enemies to the worm, than they have in France and Italy. The experiments now going on, should they answer the expectations of gentlemen, it may be the cause of turning ours into a Silk-growing State, in a very few years.

Respectfully your's, &c.

W. H. SPARKS.

The sample of silk was of a beautiful pale yellow colour, in all other respects perfect.—Ed. of So. Ag.

ART. VIII .- On Back Country Cultivation; by the EDITOR.

(Continued from page 327.)

We trust that the attention of some of the upper country readers will be thus far forcibly drawn to these papers, and that the facts we have laid before them to prove the advantages of regular Husbandry, will make that impression on

them, which we so earnestly desire.

Such of them as have taken the trouble to peruse our observations, and who understand the principles we would recommend, will perceive that we do not advise a rotation of crops merely to bring into notice other crops which are in themselves as valuable as Cotton, for they are not so; but because we know that by changing the present mode of cropping, and by managing to keep a good stock of cattle, sheep, and hogs; by cultivating the fields in a regular way, so that two Cotton, two Corn, or any other exhausting crops, shall never follow each other on the same field; the soil, so far from being worn out, will, on the contrary, be improved, and made to bring heavier crops of Cotton every year, until this system arrives at its greatest perfection. While, at the same time, the very means taken to increase and improve all the crops, will themselves add to the planter's profit.

It is not necessary for us to prove here, that particular crops raised in constant succession, impoverish the fields. If this were not established by the long and dear bought experience of other lands, we would appeal to our whole upper country to say, if it is not so, as regards Cotton, Corn and small grain, and whether the constant and improvident cropping of these staple articles have not impoverished many of the owners of the soil, and with them greatly injured the Southern States.

The great principles in Agriculture which we venture to recommend as likely to relieve us from these evils, are to manure highly and judiciously with cattle manure; to change regularly the crops grown upon the land, so as never to exhaust it; to introduce ameliorating crops between the Cotton and Corn, and other exhausting crops;\* and to have a portion of the fields always in their turn laid down in clover or other grass. And we will observe, as closely connected with this system, that nothing will bring good high land and the rich bottom lands so near an equality in value as the principles we recommended. In Pennsylvania, the introduction of Clover had this effect on the bottom lands there,† the rotation system, with Clover as a part of it, will have an equally happy effect in our Southern country, if the lands are not ruined by injudicious ploughing.

The beneficial effects of cattle-manure cannot be doubted by any man who has ever tried it, or ever seen cow-dung lying on the grass of an old-field or pasture. We shall not take up our reader's time to prove its utility, for we consider that fact as too well established to require it. Now, as even upon the present system of management, a Corn crop, although not worth as much money as a Cotton crop, nor yet as easily sent to market, must still be grown, because every thing must eat, from the owner of the place to the

<sup>\*</sup> See Chaptal, on the rotation of crops, with his reasons for changing.

t 'In Pennsylvania, it is remarkable, that the irrigated and bottom meadow lands are now thought lightly of in comparison with the very high estimation they were in before Clover came into field culture. Till lately, a farm without irrigated or bottom meadow, was never much valued. Now purchasers are less anxious for those articles, as they are sure of abounding in clover and hay from the arable upland."—Bordley's Husbandry, p. 31, in a note.

So in the South, if good upland fields can be made to produce fifty or sixty bushels of Corn, twenty or thirty bushels of wheat, or Cotton in proportion, will not a planter be able to make out as well as if he had bottom lands?—Ed. of So. Ag.

smallest pig or chicken he raises on it; and for the same reason as a Potatoe-crop, which cannot be sent to market or sold at all, must be raised also; are not cattle which will enable a planter to increase these crops fourfold, which will themselves get fat and fit for market on the overplus of the crops they so improve, and thus carry for sale what cannot be used at home, giving him heavy Cotton-crops besides!—are not these useful creatures worth the keeping, and keeping well? But to be well kept, cattle, horses, sheep and hogs must have plenty of food; and as the better they are fed, the more they will be worth, and the more good they will do in their way-to raise clover and other crops therefore, to feed them with, cannot be a waste of time or labour, particularly as Clover-crops, in the mere act of growing, make the soil richer and more productive by resting and refreshing it, and when ploughed in as a solid foundation for the succeeding crops.

We have now only to show, that stock of all kinds can be turned into money to advantage, and after what we have said, no other argument, we think, will be required to bring all our planters to attend to these useful animals, or to increase their number as far as they can support them.

#### Horses.

We did not particularly include Horses in the enumeration of stock to be raised for sale, because it is generally considered they require more care than can be well bestowed upon them; but we think every planter can and ought to raise them in the cattle-pen, in the way our judicious Correspondent S. A. S. has pointed out, page 212, of this vol.

If horses are raised in the hardy manner he describes, they could always be turned into money; for, in addition to our own demand, those reared in a Southern climate would suit the West-Indies, and stand the heat of that climate better than those from the Northern or Western States. If a more valuable breed is wanted, good feeding, while young, will make them larger: but penning in the open air ought not to be given up for many reasons, but especially this, that horses thus reared are infinitely more valuable for country purposes, as they can stand (in the South especially,) being sometimes turned out when not in work, to provide for themselves.

ART. IX.—On Fallows, and Rotation of Crops in the Middle and Upper Country; by ORLANDO S. REES.

"Stateburg, June 29, 1829.

To the Editor of the "Southern Agriculturist."

Sir,—I have read with much interest the remarks of Gen. Williams, in your June number, "On Upper Country Cultivation," and like him I feel grateful to every man who puts his pen to paper upon agricultural subjects. The judicious remarks of your's accompanying—your untiring zeal in conducting this valuable periodical—the forcible manner which you call upon all to "join from the wealthiest to the humblest," to contribute to the improvement of agriculture, has induced me (though one of the "humblest,") to offer some remarks, and the result of a few years experience on the most important of all subjects to the middle and upper country planters:—Fallows and Rotation of Crops.

It may not prove uninteresting in the beginning to contrast the opinions of two distinguished writers and agriculturists on the subject of fallowing, I mean Sir H. Davy and Judge Peters. The former seems to underrate the utility of fallowing, and to recommend the non-fallowing system; he says "fallows afford no new source of riches to the soil: the action of the sun upon the surface of the soil tends to disengage the gaseous and volatile fluid matters, heat increases the rapidity of fermentation, and, in a summer fallow, nutriment is rapidly produced at a time when no vegetables are present to absorb it;" yet, he allows, "that a summer fallow may be sometimes necessary in lands overgrown with weeds, particularly if they are sands, which cannot be pared or burnt with advantage."

From the foregoing observations we are led conclusively to the idea, that the author disapproves of summer fallows, and although he says elsewhere that "fallows afford no new source of riches to the soil," yet he subsequently observes, "in a summer fallow, a period is always lost in which vegetables may be raised, either as food for animals or as nourishment for the next crop, and the texture of the soil is not so much improved by its exposure, as in winter, when the expansive powers of ice, the gradual dissolution of

snows, and the alternation from wet to dry, tend to pulverize it, and to mix its different parts together." Hence we are led to conclude, and, apparently, without the intention of the author, that winter fallows are beneficial, though he expressly recommends green crops. In opposition to the theory of Sir H. Davy, I will introduce a few summary extracts of the practice and experience of our own distinguished agriculturist and countryman, Judge Peters; he, after combating with great ingenuity, the chemical results of the professor, says, "the statements" of the latter, for example, "that sands are benefited by a summer fallow more than clays, and that the land is not richer at the end of such a fallow than before, "are decidedly adverse to practical maxims, in which most farmers, and the majority of writers on Husbandry, concur;" and goes on to draw the following deductions-"1st. Land is uniformly recruited during a fallow—this is proved by the circumstance, that in all soils, a much less quantity of dung is necessary after a summer fallow, and on some none is wanted. 2d. Clays are unfit for green crops, the substitute proposed for a summer fallow, and hence are pecessitated to adopt the latter in rotation with white crops—a winter fallow merely, is, indeed, an excellent thing in light grounds, but will not do with clays, which require a thorough drying and pulverizing, before they can profit by the falling juices, which would only render the earth more hard and compact. 3d. Light soils only can dispense with fallows; because the general conclusion is, that it is too costly, that the benefit of a summer fallow is not equal to a loss of a year's rent." This latter objection, however, cannot weigh with us, where land is in such abundance, that the slightest benefit derived from a fallow would be a good rent.

Thus we have the contrary opinions of two eminent men, (your readers will, no doubt, draw a just inference) the one decidedly opposed to summer fallows, the other, as decidedly in favour; neither objecting to winter. We will, however, presume to draw such a distinction as, in our judgment, seems best—premising that different soils require different fallows and rotation—the practice of one district even, will afford no absolute rule for another; local circumstances must always influence the course of crops. Thus the system so highly recommended by Judge Peters, may be, and is, no doubt, the most efficacious, in the climate in

which he lives; yet, in ours, where the vertical rays of the sun upon the surface of the soil is so much more intense—where our summers are so much longer, that we are led to believe with the professor, as expressed before, and to acknowledge, that "the texture of the soil is not so much improved by its exposure as in winter, when the expansive

powers of ice," &c.

From conclusions from the foregoing, and other circumstances, we have adopted (for the majority of our arable land,) what may be termed a medium course—that is, to commence the turning under, or listing a field, having laid out, (commonly termed,) during the hot months, about the first of September; this combines the advantages of having a greater quantity of vegetation; of being better supplied with saccharine juices; avoiding the hotest sun; having sufficient, notwithstanding, to produce the requisite fermentation, and that not too far advanced before spring; ready to derive all advantages from the pulverizing and fertalizing qualities of the frost, &c. Two Freeborn, or Dagon Ploughs, would thus be able from the 1st September to the 1st November, (before which we rarely have a killing frost,) to plough flush, at least one hundred and eighty acres, or, if you prefer listing the vegetable matter in, (a furrow run for the purpose,) a much larger proportion of land, the latter is the course recommended and adopted. But, at the same time, there is no doubt, much of the land in this country requires an effectual summer fallowing, having been but imperfectly cultivated, they are usually found much infested with the seeds of weeds, or the growth of a stiff sward, the growth of which among the growing crops is not only injurious to them, but tends much to exhaust the soil.— "Weeds growing among any crop must lessen its product, in the proportion, which the weight of the growing weeds bear to the weight of the growing crop." But a summer fallow should be done effectually, if the advantages proposed are expected to be derived; in England, we read they break up the ground early in spring, and they plough from five to ten times as the state of the ground may require, in short, they plough and harrow at proper intervals, until no further growth of weeds start from the soil.

With regard to the rotation of crops, you are aware, Mr. Editor, that any adopted in States growing a different staple, is perfectly unavailing to us, and I have not been able

to discover the successful result of any experiment made in our own, or those growing the same staple; hence the satisfaction I receive in observing how assiduously you are directing public attention to it. The observation of all of us will confirm the assertion, that Corn grows much better after Cotton and vice versa—this has led me to adopt the following rotation: 1st. Cotton two years; 2d. Corn two years; 3d. Fallow two years, or one of these two, the ground used for culmiferous crops; and for the following reasons which I will give succinctly, viz: No land can be exhausted of the pabulum or aliment necessary for the support of Cotton in less than two years, and by this you are saved the trouble of making beds every year;\* next Corn grows better, and with nearly one half the labour after Cotton-this year (the 3d,) all the manure from the homestead, or elsewhere, should be applied, and the next, your Corn continues to be benefited by the manure so applied. The 5th year is fallow, because Corn always leaves a better coat of vegetation, or the land in a state likely to produce a better one. Thus you may adopt one year's fallow, but certainly two, if a culmiferous or leguminous crop is planted. The rotation commences with Cotton again, after the fallow, because you have a fine coat of grass to list in; commencing at the time spoken of above, and by the time your crop is gathered, your Cotton land may be listed, and this too, mostly in days that cannot be employed so profitably otherwise. By this system you perceive the land is manured twice in the five or six years' course, as you may adopt-first from the homestead, and next from your coat of vegetation buried; the Corn once, and the Cotton once.

These suggestions and this plan is offered with the hope, Mr. Editor, that they may lead to other experiments, the result of which, I trust, will give us a system calculated to redeem and regenerate our exhausted patrimony. I have pursued the plan recommended above for several years, and am entirely satisfied of the beneficial results, and convinced that my old open land has been increased in its product and value; but I am not so far wedded to this system, that I should refuse to adopt another, founded on longer and more successful experience. Communications on these interest-

<sup>\*</sup> Does our Correspondent plant the same beds two years?—Ed. of So. Ag.

ing subjects, from your numerous Correspondents, cannot fail to be acceptable to your upper country friends.

I am, dear sir, with respect, your obed't serv't.

ORLANDO S. REES.

#### OBSERVATIONS BY THE EDITOR.

We hope that Mr. Rees, and our other readers, do not understand us as recommending any one to risk a crop, far less several crops, by changing all their old habits (whatever these may be) and at once adopting a system of rotation. We do not recommend sudden and incautious changes, but the contrary. But we urge upon all our friends to try an acre or two yearly in rotation, to see the effects upon the soil, and if after a fair trial persevered in, an increased fertility is found to be the consequence, then, by degrees, we would say, change the whole system, and do it so as to run no risk of loss of crop from that cause. We hope we are also perfectly understood in quoting many rotations from books, not to recommend these identical crops! but merely as showing what is done in other countries, and by more experienced agriculturists in their climate, and with such crops as they can raise.

We, in this noble climate, and with our lands, can raise far more valuable produce than they can, but we totally fail in our mode of doing it, and hence, do not make as much as we ought.

Mr. Rees' system appears to us to approach a good rotation, but why, we would with deference ask, push the Cotton lands to exhaustion, by cultivating two years in succession? One grand secret of the system of rotation lies in sustaining the fertility of the fields, and increasing it annually—not in exhausting and restoring alternately.

Corn, Rice. or any plant with superficial roots, grows to advantage after Cotton, or other tap-rooted plants; and this system is strongly recommended from experience by Chaptal, who plants Wheat and other cereal after the Beet, and this upon a great scale. We shall endeavour to collect some evidence of the beneficial effects of this kind of change in our own country, and with our own crops.

We are most flattered by the attention Mr. Rees has paid to our observations, and we would pursue this subject further if our limits could possibly permit. We wish to hear that our upper country readers are likely to double all their crops! Nothing will enable them so effectually to do this, as a judicious rotation, which must be found out by experience, and we shall be pleased to hear not only from this intelligent Correspondent, but from others on the subject.

J. G.

### PART II.

### SELECTIONS

ART. I .- On the Culture of Mangel Wurtzel; by S. L.

[FROM THE BRITISH FARMER'S MAGAZINE.]

(Concluded from page 418.)

It has been understood, that from the 20th to the 27th of April,\* is the proper time for planting Mangel Wurtzel; from this I must however beg to dissent, as I consider any time in the first fortnight in May sufficiently early. When planted too soon, the plants are apt to run to top and produce a seed stem; there is also the advantage of more time for getting the land into a good tilth, by adopting the later period. Steeping the seed I have found to be highly beneficial, both in quickening its vegetation and causing it to produce a larger number of plants. From experiments which I have made, I am led to conclude, that seed steeped forty-eight hours, will vegetate from two to four days sooner, and produce one-fourth more plants.

Hoeing.—It is perhaps superfluous to call to the mind of the practical farmer the necessity of hoeing a crop of roots, but I would mention the importance of using the horse-hoe between the ridges as soon as any weeds appear, and long before the plants themselves are large enough to admit being separated, or the hand hoe to be used among them. The plants which are left after hoeing must be carefully separat-

ed by hand, leaving only one in a place.

Top-Thinning.—When there is a scarcity of feed upon the farm in the months of August and September, the outside leaves of the Mangel Wurtzel may be resorted to with great advantage for the feeding of young stock, which will do well upon them. Women and children may be employed to pull them off, and carry them to the sides and headlands of the field. I have not found that (if not attempted too early) the plants have received any injury from the process;

This is in England, in the Southern States, Aug. and Sept. - Ed. of So. Ag

I have heard some farmers contend that they are benefited

Pulling the crop and using the leaves.—When Mangel Wurtzel was first used in this neighbourhood, it was usual, after pulling up the roots, to employ women and children with knives to cut off the tops and all the small roots, and to make them as clean as possible before carting them off the land: since, however, the culture of them has been so much extended, (almost every farmer on uncertain turnip land growing them,) it has been found impossible to take so much pains about them, neither is it necessary. It is now most usual to employ men to pull them up, each of whom takes two ridges, or rather rows at a time, and knock the roots together to disengage as much of the dirt as possible; two children follow each man, and cut off the tops, laying them in rows or heaps if intended for stock, and scattering them about if intended to be ploughed in. The roots are laid four or six rows together for the convenience of being Some farmers plough the Mangel loaded upon the carts. Wurtzel up, and have them afterwards topped and the dirt knocked off; sometimes the tops are torn off before the roots are pulled up: this is performed by each person employed, taking a single row, and dividing the top as near as may be in the middle, taking a moiety of it in each hand, and, holding the leaves firmly, press them downwards, by which means they are torn clean from the root: the roots are afterwards pulled up with a turnip crome. The two latter methods are only employed when the leaves are to be ploughed in as a manure; the first is, however, the most usual plan pursued.

Storing the Crop.—From several years' experience, and from observation on the methods used by my neighbours, I am of opinion that, all things considered, the best plan of preserving a crop of Mangel Wurtzel roots is, to store them in pies or banks, much in the same way as is practised with potatoes. The roots ought to be carted as soon as possible after they are pulled and topped, as they are then very susceptible of injury from the frost, although they will bear a pretty severe frost when protected by their leaves. The headland of a wheat-stubble as near as possible to the place where the roots will be required for use, is generally selected as the site of the bank—a place is levelled about nine feet in width, by removing a few inches of the top soil, and

is continued as far in length as may be required. The roots are piled to the height of about six or seven feet, the top being narrowed, something similar to the roof of a building. A portion of straw or haulm is laid over the roots, to prevent the mould, which is dug from the sides of the bank and covered over it to the thickness of about six inches, from running in among them. I have always covered the heap when completed, with straw or haulm, generally the latter, about eighteen inches in thickness, which both prevents the frost from penetrating to the roots, and the mould from being washed off them. I consider it to be essentially necessary to keep the wet out of the pie, as, if admitted, it is sure to destroy the roots. I am not very particular as to the roots being dry when carted, for a slight fermentation takes place among them, which drives off the superfluous moisture; but if a hole be made in the heap in winter, and

the wet admitted, that part of it will surely rot.

Feeding Cattle.—Some twenty-five or thirty years ago, when Mangel Wurtzel was introduced to the notice of the agricultural community, as a useful root for the purpose of feeding cattle, a very great prejudice was excited against it, from its injurious effects upon them. Mr. Coke's cows were very much injured by it, and I believe some of them died. This I have no doubt arose from its being used in an unlimited manner, immediately on its being drawn from the ground. The roots ought not to be used before Christmas, and the cattle ought to be habituated to them by degrees. Although they may sometimes be used before the time mentioned, yet I have known beasts to suffer very much from inattention to the rule. It is as a provision for the spring that they stand out so conspicuously beneficial, retaining their good qualities in perfection to the end of May. All live stock, except horses, are extremely fond of them, and will thrive upon them; and their fattening qualities for neat cattle are equal to those of any other root grown in this country. The result of the experiments on this subject, instituted by Lord Althorp, carry complete conviction on this point.

S. L.

Shipdam, March 25, 1828.

# ART. III.—Chimie appliquée à l'Agriculture; par M. LE COMTE CHAPTAL. 2 tomes; à Paris, 1823.

(Continued from page 427.)

## On Rotation of Crops.

"To prescribe successive changes of crops, without having regard to the difference of soils, would be to teach error, and to bring into disrepute the doctrine of rotation in the eyes of some agriculturists, too little enlightened to carry into their districts the needful changes.

"Lucern and sainfoin are placed amongst the plants which are introduced in the system of rotation, [in France,] yet these plants require a soil deep, but not too compact, that their long roots may be able to fix themselves there.

"Flax, hemp, wheat, require a good soil, and cannot be admitted as a change, only when the ground is well prepared, and very fertile.

"Light and arid lands, ought not to be cultivated in rotation,

in the same way as soils compact, and always moist.

"Each soil requires then a peculiar rotation, and every agriculturist ought to fix upon his own, grounded upon a perfect knowledge of the nature and properties of the lands he cultivates.

"As in each farm the soil presents gradations of quality more or less decided, according to its exposure, depth, or component parts, &c. the proprietor ought to vary his rotation and establish a particular one for each kind of soil.

"The wants of particular places, the greater or less facility in forwarding produce, the value of different crops, ought to enter

also into the calculations which divide the cultivator.

"In England, and other countries of the north, the return of barley is frequent in the rotations, because this grain meets there a certain consumption in the numerous breweries, which are carried on there. In Belgia, on the borders of the Rhine in Russia, rye is generally cultivated, because the immense distilleries of spirits from grain, and the necessity of nourishing a number of animals with the malt, or draff, gives it a sure and advantageous demand. The cultivation of plants for dying, such as woad and madder would be more advantageous in the neighbourhood of the great dye-houses than in countries which offer no field for their consumption. In France, where the abundance and the low price of wine does not encourage even of a hope of a great call for beer; in France, where the greater part of the people are accustomed to receive its principal nourishment from wheat bread, they cultivate wheat in preference, wherever it can be grown, and they only apply to the culture of other grains, lands of an inferior quality.

"Before adopting his system of rotation, the farmer ought to weigh well yet another circumstance. Although his lands may be very proper for one kind of culture, his interest may not permit him to embark in it; the more any crop is in abundance, the more is the price lowered; every one ought, therefore, to prefer that crop whose sale is most certain. If produce is not consumed near the spot, the charge of transportation must be calculated, and the facility of sale in the country where it is consumed.

"Every proprietor ought to provide largely for the wants of the animals and men who live upon his property, before he thinks of producing a surplus crop; he will thus so arrange his rotation, that his estate will give him at all times a variety of crops which will insure subsistence to all employed in the operations of its

agriculture.

"An intelligent agriculturist ought to strive to diminish the labour of transportation, when his fields are far removed from his habitation; he will give them the preference on that account, to forage or roots, which can be consumed on the spot by his creatures, and to those which he intends to bury under ground.

"He must also pay attention when he sows light lands and disposed in slopes, only to employ plants which restore the soil by their numerous leaves; which bind it every where by their roots, and preserve it at the same time from the washing of those heavy rains which carry it off, and the ardor of the sun, which dries it up.

"In order to support by examples the solidity of the principles which I have thus far established, it will be sufficient to make known the rotations which are followed with advantage in those countries where agriculture is most flourishing. I will begin with the provinces of ancient Flanders, because it is there that good cultivation had its birth.

"In the arondissements of Lille and Douai, where the soil is of the best quality, and the art of preparing and employing manure is carried to the highest degree of perfection, they have adopted the following rotation:—

First Rotation.—Flax, or Colza\*
Wheat,
Beans,
Oats with Clover,
Clover,
Wheat,

Second Rotation.—Turnips,
Oats, or Barley with Clover,
Clover,
Wheat.

\* Colza. a kind of wild Cabbage, much cultivated in Artois. From its seed, oil good to burn, and for other purposes, is drawn.—Dict. de l'Acudemie.

Third Rotation.—Potatoes, (Irish,)
Wheat,
Roots, such as Turnips or Beets,
Wheat,
Buckweat,
Beans,
Oats and Clover,
Clover,
Wheat.

"It is seen in this rotation of crops, that after having manured a soil, the exhausting crops, and those which are less so, are planted alternately; and those which pollute the soil are replaced by others which clean it by weeding or hoeing.

"It is by such means that in almost all Belgia, on the seashore, they have contrived to enrich sands naturally sterile, to such a degree that they are at present as fertile as the best land, and made to produce the richest crops, by following good rotations.

"In the sands in the environs of Bruges, Ostend, Newport, Antwerp, &c. they introduce with judgment the culture of farinaceous crops with beans, colza, potatoes and carrots; the rotation of Norfolk, so much cried up in England, is found there, which consists in commencing that rotation, by the cultivation of roots on a soil well dunged, and by following these with a farinaceous crop, barley or oats with clover, and afterwards with wheat.

"In the bed of arid sand, which forms the soil of la Campine, may be seen with what success the industrious inhabitants have contrived to conquer every obstacle, and to fertilize their fields. It is astonishing to find in these plains of sand an admirable style of husbandry, which ameliorates the land daily, by a good system of rotation like the following:

Potatoes, (Irish,)
Oats and Clover,
Clover,
Rye and Spargul, the same year,
Turnips.

"In a journey which I made with Napoleon in Belgia, I heard him express his astonishment at a general council of the Department, that he had travelled over a vast extent of country, covered with heath. He was answered: Give us a canal to transport our manure, and to export our produce, and in five years this sterile country will be found covered with rich crops. The canal was executed immediately, and the promise of the inhabitants realized in less time than they had pledged themselves for.

"In all the compact lands a little argilaceous, which I possess, (when they are deep) after having dunged them well, I open my rotation by beets, to which succeeds wheat, which I sow immediately after having drawn them, and without immediate preparation, I replace the wheat by artificial meadows, and these by

oats. When these lands are of very good quality, I follow the wheat by lucerne, which in its turn is replaced by farinaceous crops or roots.

"In light soils, deep, sandy, but fresh as those on the banks of the Loire, which are overflowed once or twice during the winter, I sow first winter vetches, which produce abundantly, and these

are replaced by beets.

"Independently of the use which I have for beets in my manufacture of Sugar, I believe that the cultivation of this plant for forage is the most advantageous of all. Live stock can be fed with the leaves during the months of August and September, by pulling only those which are arrived at their full growth, and the root offers the resource of twenty or thirty thousand of nourishment per arpent, or of more than for thousand per hectare.\*

"Lands of the first quality, that is to say, those which possess or unite to a well composed soil, depth, a good exposure, and suitable manure, can receive in their rotation all the plants suitable to the climate. But it is not so with those soils which do not

enjoy all these qualities.

"In siliceous or calcareous lands, generally dry, the culture of barley, rye, or other common grain, may be introduced with that of sainfoin, lupins, lentills, French beans, chick, or grey peas, turnips, woad, buckwheat, potatoes, (Irish) &c. The preference is always given to those which experience has made known as appropriate to the soil and climate, as well as to those which the product is most advantageous to the proprietor.

"In compact soils, where argil assists in giving good quality to the land, and which are proper for wheat, the rotations of wheat. In these various soils, the rotation or succession of plants which suit them will always be established when the principles I have

already laid down, are conformed to.

"Well arranged rotations economize labour, manure, and the expense of transportation, &c.; they augment the produce of an establishment; they furnish the means of raising and fattening a greater number of cattle; they ameliorate the ground to such a degree that its nature is changed, and the most delicate and most necessary plants may at least be cultivated on a soil originally sterile and ungrateful; the arid sands of Belgium and the alluvial lands on some of our great rivers, offer as numerous examples of this.

"A good system of rotation alone, gives a guarantee of lasting

prosperity in agriculture." Vol. i. pp. 270-295.

J. G.

<sup>\*</sup> The arpent contains 1,1086 English statute acre. The hectare 2,4726, of the same measure.

## PART III.

## MISCELLANEOUS AGRICULTURAL ITEMS.

# Important Agricultural Measure.

OBSERVATIONS BY THE EDITOR.

We hope the following memorial from the Agricultural Society of South-Carolina will attract attention and be read by every one

who takes an interest in the agriculture of this State.

It was sent up to the Legislature at its Session in 1827, and that honorable body, with a promptitude which showed how much it valued the true interests of the country, immediately appointed commissioners to take the subject into consideration, and report on the expediency and practicability of establishing a public market, &c. in the way pointed out. The result will be seen in the report of the Commissioners, returned to the house last session, which we also lay before our readers, and it will be found that these two documents embrace the whole question, and they certainly contain enough to create some interest!

At the last meeting of the legislature the order of the day was retrenchment. The friends of agriculture did not therefore bring the subject of the Cattle-Market forward, fearing that the cry of economy might be raised also against this measure, so necessary to the planter. It is to be hoped that the various Agricultural and Farmers' Societies in different parts of the State, will now take up the cause and send on memorials, in aid of the application of the Agricultural Society in Charleston; where no societies exist, such public spirited individuals as approve of the measure, would do well to get their neighbours to join in similar representations.

If all of them are sent to the United Agricultural Society in Columbia, either by the members from the part of the country they originate in, or early in the session, they will meet with the attention of that association, and without a doubt of the honoura-

ble body which presides over the welfare of us all.

It is in this way also that agriculturists can resist or bring about alterations in such laws, customs and abuses, as affect their prosperity, and there are many which effect us deeply! If we are united we shall always be heard, for we emphatically constitute "the country." Let us then commence that system of union, by a measure in which every planter and every farmer is more or

less interested, for there is not one of us who does not understand well, that cattle-manure is the foundation of good husbandry, still better that all in these States, are entitled by right to get the fair value of their crops or property, whatever that may be, and that if we can get a ready sale and fair prices for our stock, cattle, sheep and hogs, we shall then keep them in abundance, and improve them all.

"Money is made from crops; crops from manure; manure

from cattle."-Flanders proverb.

Without fair prices and facility in selling, we shall have no tame cattle; without tame cattle no manure; without manure no crops, and of course, empty pockets.—Carolina truth. J. G.

To the Honourable the Speaker and Members of the House of Representatives of South-Carolina, &c.

THE MEMORIAL of the Agricultural Society of South-Carolina respectfully sheweth:

That your memorialists have, as individuals, as well as in their corporate capacity, made great exertions to improve the breed of live stock, or horned cattle, viewing it, they think justly, as one of the great agricultural resources of the State, if duly encouraged, and especially if the real value of its produce can be secured to its owners.

Your memorialists would state concisely to your honourable body, that from the manner in which the selling and buying of stock is conducted at present at the Charleston market, all efforts at improvement are useless and lost, inasmuch as no planter can procure an adequate price for his live cattle, compared to the price of butcher's meat. Your memorialists generally living in Charleston part of the year, and with the facility afforded by having their stock in the neighbourhood, are uniformly disappointed in their efforts to sell at fair prices; while they know, that such of their fellow-citizens as come from a distance with cattle for sale, are compelled to take whatever price may be offered them by the purchasers.

Your memorialists are of opinion that the want of a public open market conveniently situate in the immediate vicinity of Charleston, is the great cause of these disadvantageous circumstances, and they respectfully suggest to your honourable body, the propriety of establishing a market for the sale of live stock, to be openly held on certain weekly days, called market days, to which cattle from all parts of the country may be brought for sale, and offered to purchasers, who consequently would be collected together at the same spot, and at the same time.

The advantages to be derived from this arrangement would be these, that the sellers and buyers would be all assembled together, giving greater facility to the views of both, and especial saving to the planter from a distance much time, trouble and inconvenience; that all combinations on the part of the buyers for keeping down the price of cattle; for forestalling, and other improper practices, being necessarily brought to public view, would be more easily prevented and defeated.

But your memorialists would further state, that in their opinion a trade in live-stock for exportation to the West-Indies, and for salted meat, commonly called "provisions," to a great extent, would be the result of this arrangement, if, in conjunction, a public slaughter-house were also established by law, with suitable

buildings adjoining for salting, curing, smoking, &c.

The convenience of the port of Charleston for the West-India trade, is greater than that of any in the United States. The exportation of salted beef in barrels from the whole of the States to these Islands, and the neighbouring South-American coast, is upwards of 60,000 barrels annually, besides some thousands of live cattle; of live hogs, from 10 to 12,000; of pork, in barrels, upwards of 50,000 barrels; and in hams, bacon, &c. a million and a half pounds weight; of lard, six millions of pounds weight; of butter, one million four hundred thousand pounds weight; of cheese, one million of pounds; of tallow, half a million of pounds weight.\*

Your memorialists think that the planters of this State, can and ought to partake of this branch of foreign commerce, and they believe this will be facilitated by the measure pointed out. For the owners of stock, hogs, &c. by having them exposed for sale openly, will at once be able to ascertain whether they can or cannot be sold, and in the event of their being unable to dispose of them satisfactorily alive, they will have the facility afforded them by the conveniences of the slaughter-house, to kill, and try the sale as butcher meat in the Charleston market; if that also fail them, then to prepare them for exportation, at the very market where a sale can be procured, where salt is cheaper than at any other port of the United States, and this free of the expense of land or water carriage.

# \* Exports of the United States.

-		1825.	1827.
Horses,		3,861	1.666
Live Cattle,		3,095	3,768
Sheep,		4,681	8,745
Live Hogs,		4,525	18,441
Salted Beef,	barre	ls, 88,025	90,685
Salted Pork,	**	85.709	73,813
Hams, Bacon, &c.	pounds,	1,896,359	1,864,956
Lard,	* "	5,483,048	6,927,084
Butter,	"	1,442,197	1,148,480
Cheese,	"	1,230,104	641,385
Tallow,	29	533,451	301,983

Annual Reports to Congress:

Your memorialists with great deference state these circumstances, and bring these subjects to the notice of your honourable body, for the purpose of requesting, that commissioners may be appointed to inquire more particularly into the expediency of these measures, with the view of reporting more at large at the ensuing session of the legislature, and being themselves necessarily prevented from again meeting together on this business, they have appointed four of their members as a committee to draw up and to forward to your honourable body the above memorial, to wit: James Gregorie, Hugh Rose, Charles E. Rowand, and William Washington.

JAMES GREGORIE, Chairman.

"House of Representatives, Columbia.

Resolved, That James Gregorie, Hugh Rose, William Aiken, Wm. Washington, Charles E. Rowand, Col. F. K. Huger, Dr. John Bellinger, Whitemarsh B. Seabrook, and James R. Pringle, be appointed as Commissioners to inquire into the expediency and practicability of establishing in the vicinity of Charleston a public market for the sale of live-stock upon stated market days, and a public slaughter-house, for killing and salting of cattle, and that they report the result of the inquiry to the legislature at its next session."

To the Honourable the Speaker and Members of the House of Representatives of South-Carolina:

The Commissioners appointed to inquire into the expediency of erecting a public Cattle-Market, Slaughter-House, and curing establishment, near the city of Charleston—the Cattle-Market to be open on certain weekly days, called market days, respectfully report:

That they have diligently applied themselves to the duty assigned them by the honourable the Legislature of South-Carolina, and have made such inquiries as enable them fully to lay the subject connected with these important measures before

your honourable body.

VOL. II.—NO. 10.

The Commissioners would state, that the protection of live-stock has attracted the attention of the Legislature at various times, and laws to prevent the stealing or killing of cattle, and other live-stock, have been enacted; but the evils intended to be remedied have increased, and inasmuch as these laws did not go to the root of the evil, they have been found utterly inefficient. The Commissioners would, therefore, respectfully present to your honourable body the causes of failure, and having shown from whence encouragement arises to cattle thieves, they would with due deference, most earnestly urge upon your honourable body, the necessity of applying the remedy.

60

The quantity of live stock, of different kinds, required for the annual supply of the city of Charleston, is 8500 head of horned cattle, 3950 calves, 2850 sheep or goats, and of hogs, 8200 head,

on an average taken for the last three years.

The present mode of supplying this quantity of stock for the winter consumption of that market, is by sales of cattle, sheep and hogs, brought principally from the Western country, North-Carolina and Virginia. The spring, summer, and fall supplies, are from our own farms and plantations. In all cases the stock is driven to the vicinity of the city, and the owner or drover, as the case may be, while yet at some distance, is met by the butchers, who are on the lookout for supplies. No regularly appointed place of sale being marked out to resort to, and no other purchasers having an immediate interest, or requiring a constant and daily supply of stock, the owners of cattle &c. necessarily fall into the hands of a few, strongly leagued together to bring down stock of every kind, to the very lowest prices which The countryman who has embarked in this will be received. business, is thus disheartened and disgusted, and after efforts to save his property, finding the combination too strong for him, he is compelled, in order to save his time, which is yet more precious, to take any price that is offered, however inadequate.

But this mode of selling stock is attended with this additional and enormous evil, that whereas the sales and purchases can be completed on the highways, or as may be the case, in by-lanes, or in the woods, at a distance from the public eye, no check or restraint exist, or have ever existed against dishonest men combining together for the purpose of plundering the whole agricultural community throughout the State: and that cattle, calves, sheep, and hogs, do become the prey of depredators daily, is a fact well known to planters residing even at a distance from Charleston, but more particularly to those near the city, from

their own experience.

It might be expected that the regulations of the Charleston market would come in aid of the laws of the State, to prevent these enormities; but such is not the fact. The State law passed in 1790, expressly to detect cattle thieves and stolen cattle, requires "butchers and others, to produce to the Clerk of the Clarleston market, the hides and ears of all neat cattle of whatsoever description or age, brought for sale to the said market." But this law is directly opposed by the city law, which prohibits "the exhibition of any skin at the market place, deer skins excepted." Butchers' slaughter-pens being also prohibited by the city laws, within the limits of the city, are necessarily removed from public inspection into by-places and obscure corners of the suburbs, attached to the dwellings of the individuals concerned.

And here the Commissioners would respectfully ask your honourable body, what consequences could follow but a system of enormous depredation, when the regulations of a country, and of its chief city, are such, that black and other coloured people, are permitted to purchase on the highways or elsewhere, from other coloured persons, live-stock of all kinds: to drive them into their own inclosures, there to slaughter them at their convenience, and without any restraint, to enjoy the facility afforded them of an extensive and daily consumption, equal to that of Charleston market, in which no efficient regulations whatever exist, to provent the sale of stolen meat of all kinds, by coloured and other persons. The evil the Commissioners pronounce to be enormous, and highly deserving the notice and interference of your honourable body, in behalf of the great agricultural interests of the State

at large.

The Commissioners would by no means utter a reflexion against the white butchers of Charleston, amongst whom are many men of respectability, responsibility, and good standing in society; but the records of our courts of law furnish proofs that temptations are offered to monopolize, and to oppress the planters and farmers, and that these lead to most flagrant acts of injustice and fraud. On this part of the subject the Commissioners would refer this honourable house to a paper published in the "Southern Agriculturist," herewith presented, where some of the law cases, applicable to these remarks, are reported.\* But the Commissioners would observe, that as the stealing of cattle is principally carried on by negroes, and other coloured persons, who when detected, are tried by courts consisting of a justice of the peace, and freeholders, in a summary manner, and as these trials are only known to the few individuals immediately concerned in them, the depredations committed never become the subject of public remark. But from diligent inquiries made by the Commissioners, they assert, and they call the observation to the particular notice of your honourable body, that the depredations on stock, in conjunction with the difficulty of selling it at a fair and adequate price, when brought to market, do prevent all attention to raising cattle, sheep, or hogs, for sale in the upper as well as in the lower parts of the State; consequently stock of every kind on the various plantations is neglected, kept in a wild ungovernable state; and hence one of our great agricultural resources is lost, and that most powerful auxiliary to successful cultivation and farming, viz: the use of cattle manure, is abandoned in a great part of the State of South-Carolina.

The Commissioners will not encroach upon the time of this honourable house, by long arguments or details. The edvantages of a cattle market in the vicinity of Charleston, are so many and so self-evident, that they require no reasoning to prove them; they will be felt by every agriculturist. But these advantages will be increased ten fold, if accompanied by a public slaughter-house

<sup>\*</sup> See vol. i. p. 361-363.

and by the prohibition of all private slaughter-pens near that city. If the two establishments are organized under the laws of the State, and if the regulations of the Charleston market are directed in conformity, depredations on stock hitherto so common, will, in a great measure cease, or be readily detected and punish-Besides the free use of the slaughter-house will enable the countryman to resist the impositions heretofore practised on him in selling, and will give him the means of disposing of his property either alive or as butcher's meat in the Charleston meat market; and should both of these fail, the curing establishment will provide the means of preserving it for sale in another and more manageable shape, as provisions in barrels. To the farmers who can raise beeves and hogs, this latter arrangement will be found most beneficial; and to the State at large through its agricultural inhabitants as well as those engaged in its commercial operations, the Commissioners are well satisfied that very important results will be secured, by the whole arrangement recommended, in an extensive foreign export in live stock, as well as in cured meats of different kinds, when carried into effect.

The advantages of the market being held on a stated day in each week, are many. One of infinite importance to all the sellers of stock will be, that the purchasers being deprived by law of the power of keeping back from day to day in making their purchases, will be compelled to meet the owners of stock on the market day, instead of wearing out their patience by vexatious delays; while the countrymen, knowing the very hour at which the market opens, when his live-stock will be brought forward to the notice and inspection of all buyers, would so regulate his progress towards the market, as to arrive always in time for its

opening, without incurring further expense.

Finally, the Commissioners beg leave to say to your honourable body, that they consider the carrying into effect the measures recommended, not only expedient and practicable, but essential to the prosperity of the agricultural interests of the whole They, therefore, respectfully suggest, to this honourable house, that it should pass a law authorizing the establishment of a public cattle market, to be held on stated market days, and of a public slaughter house for killing and salting cattle, &c.; that Commissioners be appointed to superintend the same, with powers to make by-laws and regulations for their better management; that, on behalf of the public, the use of that piece of public land adjoining the new Arsenal, and bounded by King-street, Tobacco-Inspection, be given for - years, as a public cattle-market. That the said Commissioners be authorized on behalf of the State, to purchase or lease for a term of years, a lot of land on Charleston Neck, near one of the rivers, convenient for a public slaughter-house; that the said Commissioners be also authorized

that they be empowered to rent out by the year, to the persons supplying the Charleston market with butcher's meat, suitable divisions of the slaughter-house, for their use as butchers either without any, or for a moderate compensation, and to require in like manner from the purchasers of stock sold in the cattle-market, or the owners of cattle killed in the slaughter-house, or cured in the salting-house, such moderate rates as may be deemed equivalent to the use of the same. Under the superintendence of judicious men, the Commissioners confidently believe, that these establishments will, in a comparatively short time, refund to the State, any appropriation required for their erection, and support themselves from their own income.

#### JAMES GREGORIE.

Chairman of the Board of Commissioners.

# The Kitchen Garden for October.

GENERAL OBSERVATIONS.

Draining.—Every garden ought to be so well drained, that no water will lie in it after heavy showers have fallen. Nothing can be more convenient for draining than an outer ditch, as all the water which requires to be carried off, can be made to discharge into it; if there is a bank in addition, small wooden drains made of boards, or dug out of a pine tree in the common country fashion, must be passed through it into the garden, at the water level. In draining, let the alleys adjoining the borders, receive the water from the alleys between the beds, and let the former vent by a main drain, or directly through the fence or bank into the ditch, or outside of the garden.

Weeding.—If good spading and manuring are the foundations of good gardening, careful weeding is its support and ought to be performed either by the hoe or hand, without further instructions, whenever it is wanted. Chopping or stirring the ground with a small garden hoe, is of the greatest service to vegetables and plants, as it admits the air and light and dew. Care must be taken not to injure the roots near the surface, which in some plants extend

on every side.

Hauling up.—This necessary part of the culture of vegetables ought not to be done when the soil is saturated with water—put it off until the earth is rather dry: but let earth be drawn up to all the crops as they require it, and in proportion to their size and growth.

Sowing Seeds.—Sow seeds when the ground will readily rake. The sooner any seed is sown after the ground is dug, while the surface is yet fresh, the quicker it will grow. As soon as seeds

are sown and covered, especially Peas, sprinkle the rows with pine trash, very thin, to prevent the birds from scratching. If done immediately it is effectual, as they generally begin their search for insects in the new raked earth; this uncovers the seeds, which thus attract other birds.

## F In this month

Sow spinach, radishes, and small salading. Plant potatoes. Transplant cabbages, cauliflowers, brocoli, onions, garlic, shallots, endive, and lettuce. Dress asparagus beds. Dress and plant out asparagus; and earth up cellery.

#### Potatoes.

There are many ways, all good, of planting this useful vegetable, several of which will be found in our first volume.—
The Virginia method, as recommended by Mr. Broadnax, is described in page 169 in this volume, and we find has been in use in Carolina since President Washington visited Charleston; with this difference, that long litter from the stable, instead of straw, is used to cover the Potatoes, which are laid as described by Mr. Broadnax, on the top of the beds. We copy the old-fashioned method for the sake of those who may not have cultivated this excellent root.

"These roots thrive best in a moderately light or loose soil, and when it is not wet; and if you add some dung it will be a great advantage. In planting Potatoes, be careful to procure some good sets; that is, to pick a quantity of the best kind of Potatoes, perfectly sound, and of a tolerably large size: these are to be prepared for planting by cutting each root into two, three or more pieces, minding particularly that each piece be furnished with at least one or two eyes, or buds, which is sufficient. Being thus prepared, they are to be planted in rows, not less than eighteen inches distance, but will be more eligible at two feet asunder, and to be set twelve or fifteen inches distant in the row, and about three or four deep.

As to the method of planting, it is very commonly performed with a thick blunt dibble, both in gardens and fields; but in the latter, when a light mellow soil, some plant them as they proceed in ploughing the ground, in a row along the bottom of the furrows, four or five or six inches deep, turning the earth of the next furrow over them. Others first dig or plough the ground about three, four or five inches deep, and so drop the sets in the

drills and cover them in."\*

<sup>\*</sup> Squib's "Gardeners' Calendar," it may not be known to all our readers, has very little original matter in it. The above directions for Potatoes, which are copied verbatum from Abercrombie's work, entitled "Every man his own Gardener, by Thomas Mawe. Sixteenth edition"—will be found by comparison, to resemble very closely the instructions given in that useful, but too expensive little work.—Ed. of So. Ag.

## Cabbages.

Now transplant, if not done last month, all the Cabbage-plants fit to set out, and let it be done in the beginning, or as soon as possible this month, that they may get good root. Give the plants a little water as soon as they require it, after planting. Draw up some earth about the stems of plants already in their places—it will strengthen them and greatly encourage their growth.

## Cauliflowers and Brocoli.

Where Cauliflowers are to grow, the beds ought to be well prepared with good rotted manure, well dug in; they are treated much as Cabbage-plants, but the great art of raising them in perfection consists in getting rid of the long stem by frequent transplanting. When this is done, a small trench is dug to receive the plant, which is pulled up with all the earth on the roots, and laid in the trench up to the head, covering the stem up carefully, and pressing it down gently with the foot, but beware of the earth getting into the leaves. We believe the seed sown in April is most likely to bring good heads. Brocoli may be treated as others of the Cabbage tribe.

## Onions .- (See last month.)

## Garlic, Shallots, Scallions and Chives.

Procure some of the best roots. Divide the Garlic into cloves, the Shallots into off-sets, as they admit. Plant them in rows, nine inches asunder, the plants six inches apart, and two or three inches deep. Scallions, set out like young Onions, they will increase in bunches. Chives are a small species of Onion, growing in large tufts. Part off some slips from the old roots, and plant eight or ten bulbs together, nine inches apart. These last will soon take root and increase very fast into large bunches of many years' duration.

#### Endive and Lettuce.

Draw out of the seed bed, some of the strongest Endive-plants, trim the extreme end of their roots, and weak straggling tops of the leaves, and plant twelve inches apart each way.

If the Lettuce-seed was sown in rows, draw out the plants so as to leave them in the seed bed ten or twelve inches apart; chop between them occasionally with a small hoe. The plants which are drawn out ought to be planted in rich ground, twelve inches apart, and carefully watered.

#### Artichokes.

Make a general dressing of your Artichokes at the beginning or about the middle of this month; at the same time examine the number of shoots or suckers arising on each stool or root, selecting two or three of the strongest outward ones to remain on every stool, and all above that number to be slipped off

close with your hand: observing in performing this work, to open the earth deep enough about each stock or root, that you may get the superabundant shoots clean off from the place where they arise; dig and loosen all the ground carefully about the plants; spread some well-rotted manure around each plant, closing the earth in again over it, and hauling rather higher about the stems to protect them from the frost.

Where a plantation of Artichokes is intended, let them be planted now, if you can get good plants. There are two sorts, the large globe Artichoke and the French or green oval Artichoke; but the former is greatly preferable to plant for the general supply, the heads being considerably larger, and the eatable parts

more thick and fleshy.

Plant in an open situation in good ground, well manured and dug in, some well rooted suckers, having first trimmed the straggling roots and tops. Dibble in rows four or five feet apart each way. Press the earth carefully about the roots, and water.

Asparagus.

In dressing Asparagus-beds, care ought to be taken to prevent the seed from being scattered either on the beds or about the garden. If seed is wanted it ought to be saved as it ripens. At any time this month, cut the stalks down close to the surface; carry them off, and with a sharp hoe cut off all the weeds, and draw them into the alleys. This done, stretch the line to the width of the alleys, as first made and mark them out. If stakes were originally put down, as recommended in last month, they will be found particularly serviceable now. Old Asparagus beds will need an addition of dung, which must be very mellow and rotten. The beds must be previously slightly dug or forked with a three pronged Asparagus fork, in doing which, be sure to loosen every part to a moderate depth, taking great care not to go too deep to wound the plants. Let the dung be well broken, and lay it on equally two or three inches thick in every part. Dig the alleys one spade deep, and spread a considerable part of the earth evenly over the beds; and as you advance in digging, let the weeds which were raked off the beds into the alleys, be covered up in the bottom with a proper depth of earth. In digging the alleys, do it in the neatest manner, and make the edges of the beds full and straight. The alleys ought all to be of a depth and the beds left perfectly even and regular.

Celery.

Celery-plants, after they have been planted out six weeks, and are six or eight inches high, or even more, will require earthing. This must be done carefully in dry days; the earth must be well pulverized, and care taken to lay it gently to both sides of the plant, and not too high at first. The earthing ought to be continued every fortnight till the plants are blanched or whitened ten, twelve or eighteen inches.

\* For the purpose of digging or forking these beds, you should be provided with a proper fork, having three short tines, six to nine inches long, perfectly flat, and about an inch broad; the ends rounded and blunt. See Abercrombie, from whom we copy largely in all our articles on gardening.—Ed. So. Ag-

#### ERRATA.

In page 402, line 8, for "one," read we.
" "13, for "railed," read nailed.